

21. (Once Amended) The floor covering of claim 18, wherein the embossed texture has raised surfaces and indentations, and the pigmented wear layer or the topcoat is disposed in the indentations.

22. (Once Amended) The floor covering of claim 18, wherein the pigmented wear layer or the topcoat comprises nacreous pigments.

REMARKS

Within the present application the non-elected claims of 29-55 have been cancelled without prejudice. Furthermore, claims 1 and 12 have been amended to incorporate the subject matter of claim 4 into each. Claims 17 and 20-22 have been amended to correct the antecedent basis of the recited claim term "pigmented topcoat." Claim 4 has been cancelled because the subject matter of that claim has essentially been incorporated into claims 1 and 12. Thus, claims 1-3 and 5-28 are now pending.

35 U.S.C. § 112 Objections

Claims 5, 8, 16-17, 19-22, 25 and 28 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claims 5 and 16 have been objected to because it is said by the PTO that it is unclear how the substrate "includes a printed pattern" since its location can be within the substrate or on top of the substrate. In response, Applicants note that the claim term, "includes a printed pattern" refers to the substrate having a printed pattern. The pattern may be on or in the substrate. Applicants do not claim a location of the pattern, thus there is no need to define the location of the pattern. Applicants urge that the claim is definite as to the substrate having or

including a pattern, defining the location of the claimed pattern is not required to render the claim definite.

Claims 6, 8, 17, 19, 25 and 28 are said to be unclear by the PTO in that the phrase “in register with” is thought to be vague since how the layers are “in register” is not stated. Applicants assert that the term “in register” is a term commonly used by those ordinarily skilled in the art and is understood by those ordinarily skilled in the art to mean a pattern printed in line with, or in cooperation with, a printed or embossed design. Applicants note that the term “register” is defined by one dictionary to mean the alignment of lines or margins or the positioning of colors and color printing, American Heritage Dictionary of English Language, Fourth Edition, Houghton Mifflin Company, 2000. The term “in register” in the claims is used as commonly understood to one of ordinary skill in the flooring industry to mean that the printed patterns are oriented with colors, other patterns and/or embossed designs.

Additionally, claims 17 and 20-22 have been objected to because the claim term “the pigmented topcoat” is said to lack proper antecedent basis. Applicants have amended the objected to claims 17 and 20-22 to alleviate this objection.

35 U.S.C. § 103 Rejections

Claims 1-4, 12-21, 23 and 26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,543,232 to *Ehrhart et al.* in view of U.S. Patent No. 5,830,937 to *Shalov et al.* *Ehrhart et al.* is said by the PTO to show a floor covering comprising a substrate and a UV radiation cured topcoat having a stain resistance of 26-82 Delta E units and a gloss retention of 87-96%. The PTO states that *Ehrhart et al.* does not show a pigmented wear layer. *Shalov et al.* is said by the PTO to show a wear layer and a surface covering that may be pigmented. Thus, the PTO asserts that it would have been

obvious to one of ordinary skill in the art at the time the invention was made to make a pigmented wear layer since it is known, as shown by *Shalov et al.*, that such wear layers can be colored for aesthetic purposes.

The determination of obviousness under 35 U.S.C. § 103 is a legal conclusion based on factual evidence. *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1584, 3 U.S.P.Q.2d 1436, 1439 (Fed. Cir. 1987). Initially, the PTO bears the burden of establishing the *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). To support a conclusion of obviousness, "either the references must expressly or impliedly suggest the claimed combination or the [PTO] must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Int. 1985). In evaluating obviousness, the Federal Circuit made it very clear that one must look to see if "the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have had a reasonable likelihood of success viewed in light of the prior art." *In re Dow Chemical Co. v. American Cyanamid Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988). Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure." *Id.*

Ehrhart et al. is said by the PTO to teach a UV radiation cured acrylated polyester wear layer having a stain resistance of 26-82 Delta E units and a gloss retention of 87% to 93%. The coating taught in *Ehrhart et al.* is a clear coating. Col. 2, Lns. 28-29. The PTO concurs, by stating in the Official Action that *Ehrhart et al.* does not show that the wear layer is pigmented as is claimed in the present application. Applicants also note that pigment free wear layers are known. Pg. 2 Ln. 14. What is not known in the art is pigmented wear layers as claimed in the present application.

As set forth in the present application, radiation curable wear layers and topcoats are subject to substantial difficulties when coloring is added. Pg. 2, Lns. 15-17. The incorporation of pigment produces a coating which is hard to cure and having a reduced thickness and durability. Pg. 2, Lns. 17-18. Additionally, it is known to one of ordinary skill in the art that the addition of pigments to radiation-curable systems effects the properties of cured wear layer. This is evidenced in the technical book entitled "Radiation Curing in Polymer Science & Technology, Volume IV – Practical Aspects & Applications"; Edited by J.P.Fouassier & J.F. Rabek; Published by Elsevier Science Publishing LTD; 1993; pages 87-102. On page 102, the conclusion presented is as follows;

The addition of pigments to radiation-curable systems add to the complex nature of these systems. Although some effects can be predicted there is insufficient data available to fully explain the effects seen and to be able to say with any certainty what effect the pigment will have prior to its inclusion. Thus, formulating pigmented coatings is still an empirical science and it will remain so until much more work is published on this topic.

The known art teaches that the addition of pigments to a clear wear layer detrimentally effects the properties of the wear layer.

One of ordinary skill in the art would not be motivated to combine the pigmented wear layer taught in *Shalov et al.* with that taught in *Ehrhart et al.* As illustrated above, the addition of pigments to a clear wear layer is known to detrimentally effect the performance characteristics of a wear layer. *Ehrhart et al.* is directed to a clear coating with improved wear resistance properties, such as good stain resistance and gloss retention. One of ordinary skill in the art would not be motivated to add an ingredient, such as pigments, to the *Ehrhart et al.* composition that would compromise those qualities.

Furthermore, the suggestion of adding pigments to a wear layer having the claimed characteristic of stain resistance of less than 150 Delta E units as claimed in the present application can only be found in the present application and not from the cited art. As noted

above, the Federal Circuit stated that, "Both the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure". *Id.* at 1531. Applicants' disclosure is the only reference that suggests that pigments can be added to a UV or electron beam curable wear layer having a cured stain resistance of about less than 150 Delta E units. As acknowledged by the PTO, *Shalov et al.* does not teach a wear layer having a stain resistance of about less than 150 Delta E units, nor does it teach a topcoat having a gloss retention of at least about 80% as is claimed in the present application. *Shalov et al.* does not teach or suggest the addition of a pigment to a wear layer having the claimed properties as recited in the present application.

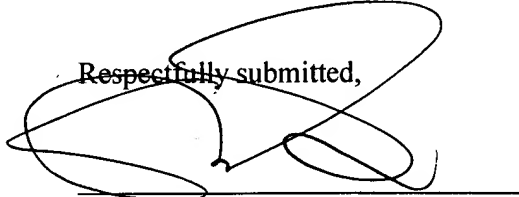
Shalov et al. discloses a wear layer comprising a thermoplastic, plasticizer and a crosslinking agent. Col. 29, Lns. 15-22. The *Shalov et al.* wear layer requires heat to fuse the thermoplastic resin to cure it and radiation to cross-link the composition. The present application does not disclose or claim the use of thermoplastic resin materials, but only claims the use of radiation curable materials or layers in the claimed formulation. As amended, the present application claims that the pigmented topcoat or wear layer consists of an ultraviolet light curable layer, electron beam curable layer and combinations of the two. *Shalov et al.* teaches a wear layer comprised of a heat fused or cured wear layer. Thus, *Shalov et al.* teaches away from a wear layer formed from only layers of UV or electron beam curable layers. One of ordinary skill in the art would not be motivated to combine that which is taught in *Shalov et al.*, which teaches the use of a thermoplastic heat fused or cured layer, with that taught in *Ehrhart et al.*

The rejection of claims 1-3, 12-21, 23 and 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,543,232 to *Ehrhart et al.* in view of U.S. Patent No. 5,830,937 to *Shalov et al.* is respectively traversed and Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn. Furthermore, the objections to claims

5-11, 22, 24-25 and 27-28 which directly or indirectly depend from either claims 1 or 12 are also respectfully traversed since newly amended claims 1 and 12 are respectively asserted to be allowable over the cited art as stated above.

Thus, Applicants respectfully submit that the newly amended claims 1-3, 5-28 of the application are believed to be in a condition for allowance and an early notice to such effect is earnestly solicited.

Respectfully submitted,



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September 26, 2002

Cheryl West

APPENDIX

1. (Once Amended) A decorative floor covering comprising:

a substrate; and

a radiation cured pigmented topcoat disposed on the substrate having a stain resistance of about less than 150 Delta E units, wherein the topcoat comprises a composition selected from the group consisting of an ultraviolet light curable layer, electron beam curable layer, and combination thereof.

12. (Once Amended) A decorative floor covering comprising:

a substrate;

a radiation cured pigmented wear layer disposed on the substrate; and

a radiation cured topcoat disposed on and adjacent to the radiation cured pigmented wear layer, the topcoat layer having a stain resistance of less than about 150 Delta E units, wherein the topcoat and radiation cured pigmented wear layer each comprise a composition selected from the group consisting of an ultraviolet light curable layer, electron beam curable layer, and combination thereof.

17. (Once Amended) The decorative floor covering of claim 16, wherein the pigmented [topcoat or] wear layer or the topcoat is in register with the printed pattern.

20. (Once Amended) The floor covering of claim 18, wherein the embossed texture has raised surfaces and indentations, and the pigmented [topcoat or] wear layer or the topcoat is disposed on the raised surfaces.

21. (Once Amended) The floor covering of claim 18, wherein the embossed texture has raised surfaces and indentations, and the pigmented [topcoat or] wear layer or the topcoat is disposed in the indentations.

22. (Once Amended) The floor covering of claim 18, wherein the pigmented [topcoat or] wear layer or the topcoat comprises nacreous pigments.